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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,524	01/23/2004	Takashi Chuman	Q79540	5360

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EXAMINER	
SITTA, GRANT	

ART UNIT	PAPER NUMBER
2629	

MAIL DATE	DELIVERY MODE
12/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/762,524	CHUMAN ET AL.	
	Examiner	Art Unit	
	Grant D. Sitta	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 September 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 9-14* is/are pending in the application.

4a) Of the above claim(s) *8* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-7 and 9-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/23/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 contains new matter because "mechanically combine the first and second display units with each other through bonding properties of the bonding agent" was not described in the specification.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Putilin et al (2004/0223218) hereinafter Putilin, in view of Miyai Mitsuyoshi (JP 2000-227606) hereinafter, Mitsuyoshi.

5. In regards to claim 1, Putilin discloses the limitations of an apparatus (display system - see Fig. 5) for displaying a three-dimensional image (multiple aspects of a stereoscopic image to create a three-dimensional viewing experience -.see [0032]) of an object to be displayed, through a superimposing of a plurality of images (via multiple stacked electronic transmissive displays - see [0032]) of said object, which are placed so as to be apart from each other on a line of sight of an observer (see Fig. 2), comprising:

a first display unit having a first screen (distant display screen - 4);

a second display unit disposed so as to face said first display unit, said second display unit having a second screen (near transmissive display screen - 6), which is light-transmissible ,

Putilin differs from the claimed invention in that Putilin does not explicitly disclose a bonding member. Examiner notes while Putilin does not explicitly disclose a bonding agent, the two displays must somehow be kept together.

However, Mitsuyoshi teaches a system and method for a bonding member ([0020-0027]) for connecting said first display unit and said second display unit with

each other [0020 "glue line"], said bonding member having a light transmission property [0019-0026] and being a bonding agent [0019-0020] with which a space ([0019-0020], "spacer") between said first display ([0022] "1st..liquid crystal display") unit and said second display ([0022], "1st and 2nd liquid crystal display") unit is filled to mechanically combine the first and second display units with each other through bonding properties of the bonding agent ([0019-0030]).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Putilin to include the use of a bonding member as taught by Mitsuyoshi in order to hold the two displays together.

6. In regards to claim 14, Putilin teaches an apparatus for displaying a three-dimensional image (abstract "3-D perception"), comprising: a first display unit (fig. 5 (4)) comprising [0033] a first substrate (inherent with Liquid crystals) having a light transmission property and a first luminescent layer ([0033] "transmissive") formed on said first substrate to emit light for displaying a first image [0033];

a second display unit (fig. 5 (6)) comprising a second substrate, which is disposed to face said first substrate and has a light transmission property, and a second luminescent layer [0033] formed on said second substrate (inherent with Liquid crystals) to emit light for displaying a second image to be superimposed on said first image[0033],

wherein said first display unit is mechanically [0043-0046] combined with said second display unit ([0022], "1st and 2nd liquid crystal display"), the first substrate of the

first display unit directly coming into contact [0048] with the second substrate of the second display unit [0051] and said first luminescent layer and said second luminescent layer being place so as to be apart [0057] from each other by a distance corresponding to a total thickness of the first and second substrates on a line of sight of an observer[0047-0057].

7. Claims 2-4, 7-8, and 10-13 and are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroda et al. (2004/0008156 A1) in view of Putilin ('218).

8. As to claim 7, Kuroda discloses an apparatus for displaying a three-dimensional image including: a first display (display unit (12) comprising a first substrate (112) and a first luminescent layer (organic EL emitting layer - 111 formed on said first substrate (112) to emit light for displaying a first image (121) - see Fig. 1 and [0128]); a second display unit (display unit (11) comprising a second substrate (112), which is disposed to face said first substrate (112 of display unit (12)) and has a light transmission property (see [0128]), and a second luminescent layer (111 - see Fig. 10) formed on said second substrate to emit light for displaying a second image (111 - see Fig. 1) to be superimposed on said first image (121), wherein said first luminescent layer and said second luminescent layer are placed so as to be apart (d0 - see Fig. 1) from each other on a line of sight of an observer (10).

Kuroda does not teach first display unit being joined to an opposite surface of said, second substrate to said second luminescent layer.

Putilin teaches the joining of the first display unit and the second display via a spatial mask - 5 (see [0038]) in the line of sight of an observer (see Figure 2).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have added the spatial mask of Putilin to join the display units of Kuroda because of the capability to create a continuous 3D image field in a large viewing area with improved image quality (see [0020] of Putilin).

9. As to claim 2, note the discussion of claims 1 and 7 above. Putilin does not teach substrates and electroluminescent layers as recited the claim 1.

However, Kuroda teaches: a first substrate ((112) of display unit (12)), a first luminescent layer (111) emitting light to provide said first screen and a second luminescent layer emitting light to provide said second screen. (see Fig. 7 of Putilin and [0088] of Kuroda noting that an EL element can be used for both screens).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have added the spatial mask of Putilin to join the display units of Kuroda because of the capability to create a continuous 3D image field in a large viewing area with improved image quality (see [0020] of Putilin).

10. As to claim 3, Putilin teaches said bonding member (spatial mask- 5 see [0038]) is disposed between said first display unit and the second display unit situated or arranged back-to-back. Kuroda teaches an opposite surface of said second substrate of said second luminescent layer (EL used for second display unit- 12 see [0088]and reducing L2 from first display unit), with said first display unit and said second substrate to be collocated together (see Fig 10 and [0137]). Combining the teachings of Putilin and Kuroda would meet the claim limitation.

11. As to claim 4, Putilin teaches said bonding member is disposed between said first display unit and said second display unit (spatial mask - see [0038]). Kuroda teaches said first substrate has a light transmission property in an apparatus arranged to cause an opposite surface of said first substrate of said first luminescent layer and the opposite surface of said first substrate to said first luminescent layer to be placed together (see Fig. 12 and [0141] of Kuroda). Combining the teachings of Putilin and Kuroda would meet the claim limitation.

12. As to claim 10, Kuroda teaches the first/second substrate (112) of the first (12) and second (11) displays respectively contain a glass substrate (117) - (see [0130]).

13. As to claim 11, Putilin teaches said first display unit/and said second display unit are disposed on the line of sight (visual lines - 205, 206) of said observer

so that pixels of the first display unit correspond to pixels of said second display unit, respectively (see [0034 and [0036]).

14. As to claim 12, Kuroda teaches said second display unit (first display unit-11) comprises an organic electroluminescence display device (see [0128]).

15. As to claim 13, Kuroda teaches said second substrate (polymer substrate - 112) comprises a polymer film (see [0130]).

16. Claims 5-6 and 9 and are rejected under 35 U.S.C. 103(a) as being unpatentable over Putilin (218) in view of Kuroda et al. (156), and further in view of Garner et al. (U.S. 2004/0217702 A1).

17. As to claim 5, note the discussion of Putilin and Kuroda above.

Putilin and Kuroda do not teach refractive index. Garner teaches said bonding member (adhesive) has a same refractive index as that of at least one of said first substrate (encapsulant substrate - 1312 -see [0065] of Garner) and said second substrate (frit - 508 - deposited over the entire device - see [0043]).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have added the teaching of refractive index to the teachings of substrates of Kuroda and the bonding member of Putilin because it would improve

emission efficiency of the displays (see [0003]).

18. As to claim 6, Garner teaches said bonding agent is an optical adhesive (see [0092]).

19. As to claim 9, Garner teaches said first substrate (transparent encapsulant substrate - 1212 thereby allowing more light to be emitted by the first substrate creating a brighter image on the rear screen of the instant invention) has a larger refractive index than that of said second substrate (see [0054]).

Response to Arguments

20. Applicant's arguments filed 9/04/2007 have been fully considered but they are not persuasive.

21. In response to Applicant's arguments that Putilin does not "disclose the unique feature of the bonding member". Examiner notes that Applicant does not claim wherein the bonding member is an optical adhesive. Also Examiner notes that Putilin does not explicitly disclose how the two displays are held together. However, some force must be applied to the two displays to keep the displays together (i.e. glue, screws or a clamp). Examiner further notes that most process today are done mechanically. Normally, "mechanically combining" would not involve an innovative step and generally would have been obvious to one of ordinary skill in the art.

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure. Bell et al. (U.S. 2005/0206582 A1) discloses a method of displaying images with perceived depth with parallel imaging screens. Koyama et al. (U.S. 2005/0285997 A1) discloses using parallax barrier means to provide a 3D display effect.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Grant D. Sitta whose telephone number is 571-270-1542. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Grant D. Sitta

November 29, 2007

AMARE MENGISTU
SUPERVISORY PATENT EXAMINER